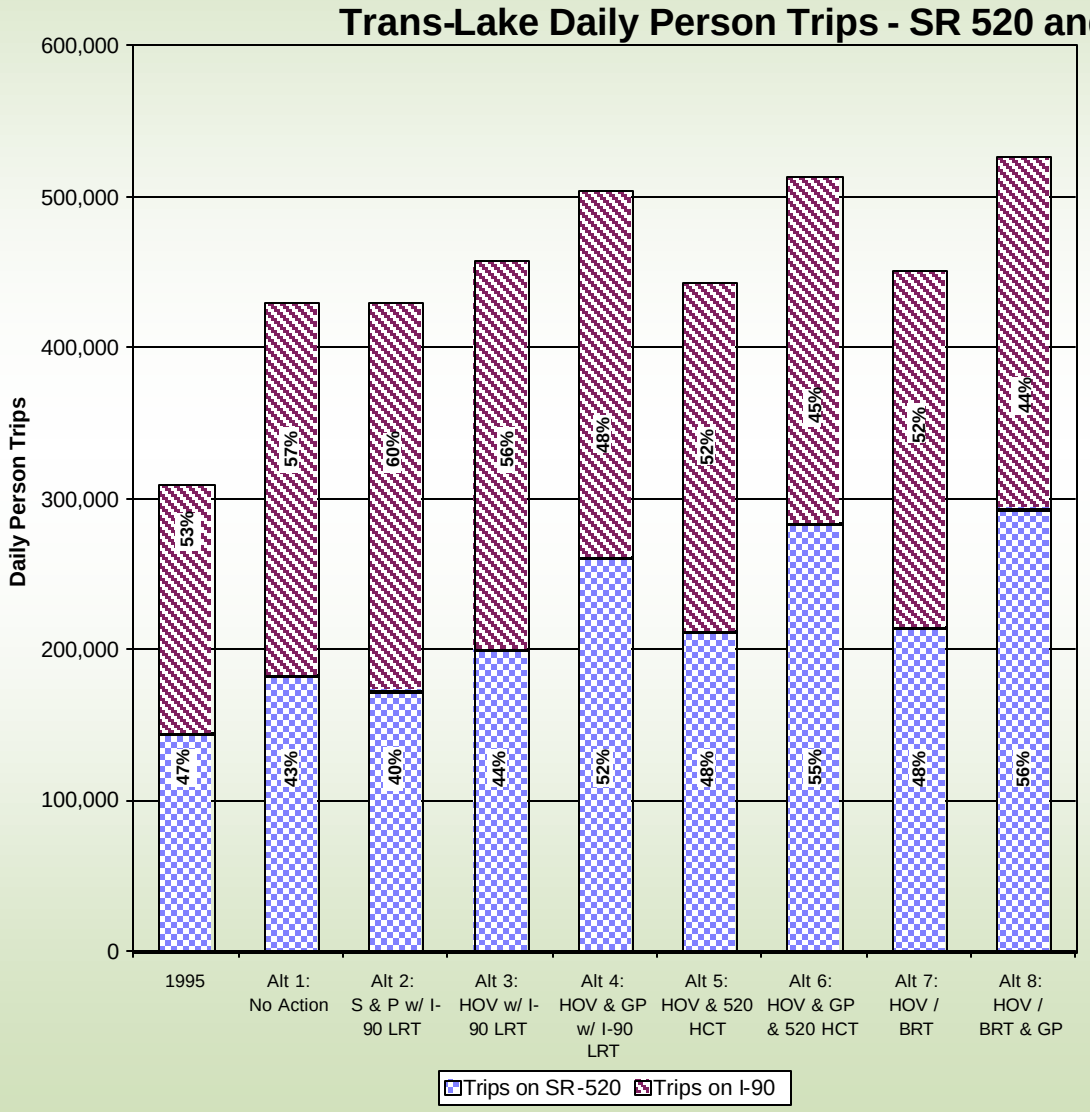
Transportation Performance

Trans-Lake Washington Project

Person Throughput

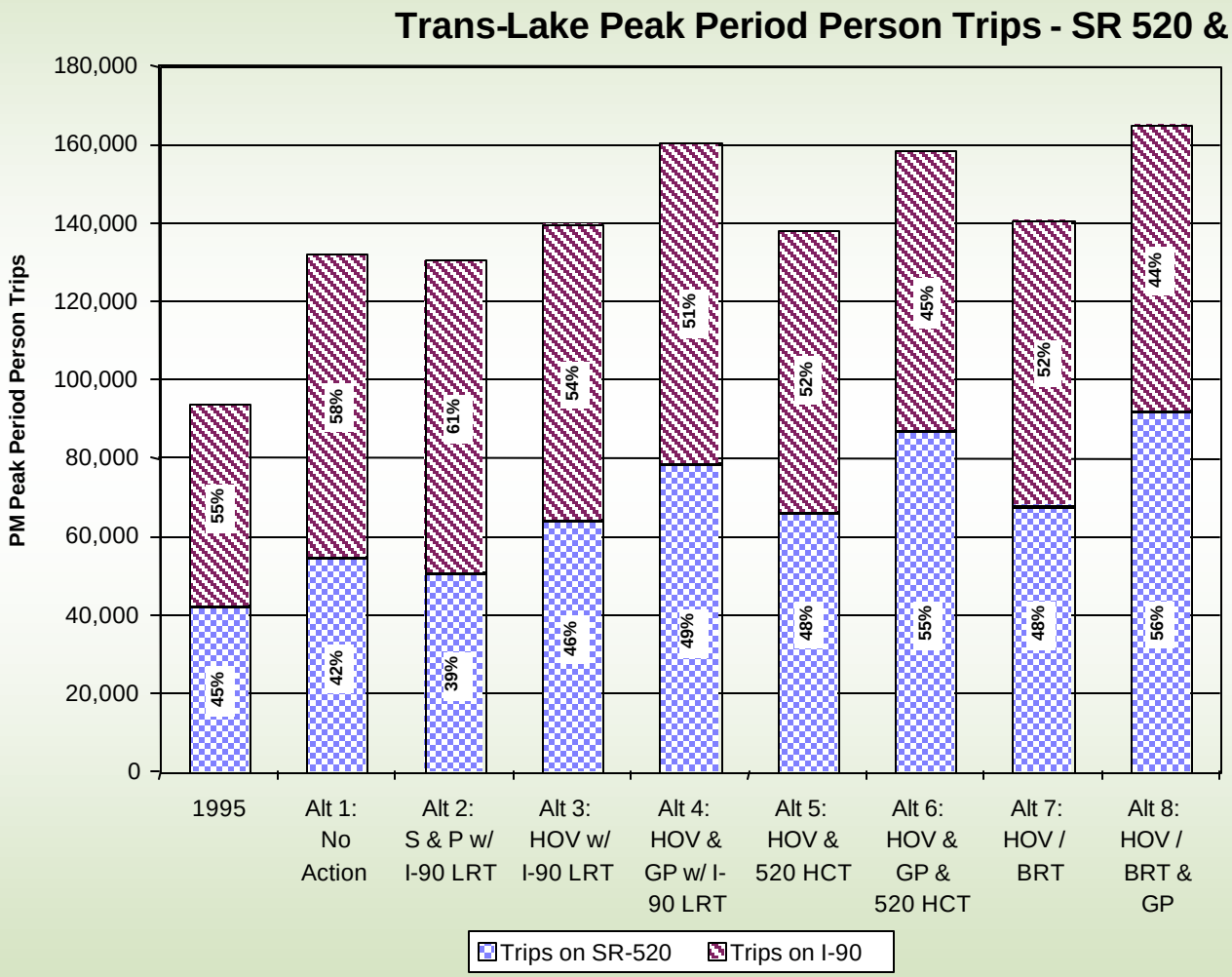


Relative Increases
(Over No-Action)

Alt. 2	**0%**
Alt. 3	**7%**
Alt. 4	**17%**
Alt. 5	**3%**
Alt. 6	**20%**
Alt. 7	**5%**
Alt. 8	**23%**

Trans-Lake Washington Project

Person Throughput



Relative Increases
(Over No-Action)

Alt. 2	**-1%**
Alt. 3	**6%**
Alt. 4	**21%**
Alt. 5	**4%**
Alt. 6	**20%**
Alt. 7	**7%**
Alt. 8	**25%**

Person Throughput

Person Throughput Criteria Rating

1995	Alt 1: No Action	Alt 2: S & P w/ I-90 LRT	Alt 3: HOV w/ I-90 LRT	Alt 4: HOV & GP w/I-90 LRT	Alt 5: HOV & 520 HCT	Alt 6: HOV & GP & 520 HCT	Alt 7: HOV / BRT	Alt 8: HOV / BRT & GP
--	2	2	3	5	3	5	3	5

Rating Key

WORST				BEST
1	2	3	4	5
Least Effective, Most Impacts	Low Effectiveness, Medium Impacts	Medium Effectiveness, Low Impacts	Increased Effectiveness, No Impact	Most Effective, Improved Conditions

- **Bottom line:** Alternatives with the most capacity carry the most people (Alts. 4, 6 and 8)
- From 1995 to 2020 Trans-Lake person trips grow by 40% (No Action) to 70% (Alt. 8)
  - With No Action and 6-lane alternatives
  - most of the growth would be in HOV and transit
  - Most general purpose and commercial growth would be in off peak
  - I-90 would be the dominant corridor and allows more GP growth
- With 8-lane alternatives
  - Growth would be seen across all modes
  - More trips would be carried in peak periods
  - SR 520 becomes the larger travel corridor

Trans-Lake Washington Project

Traffic Volumes

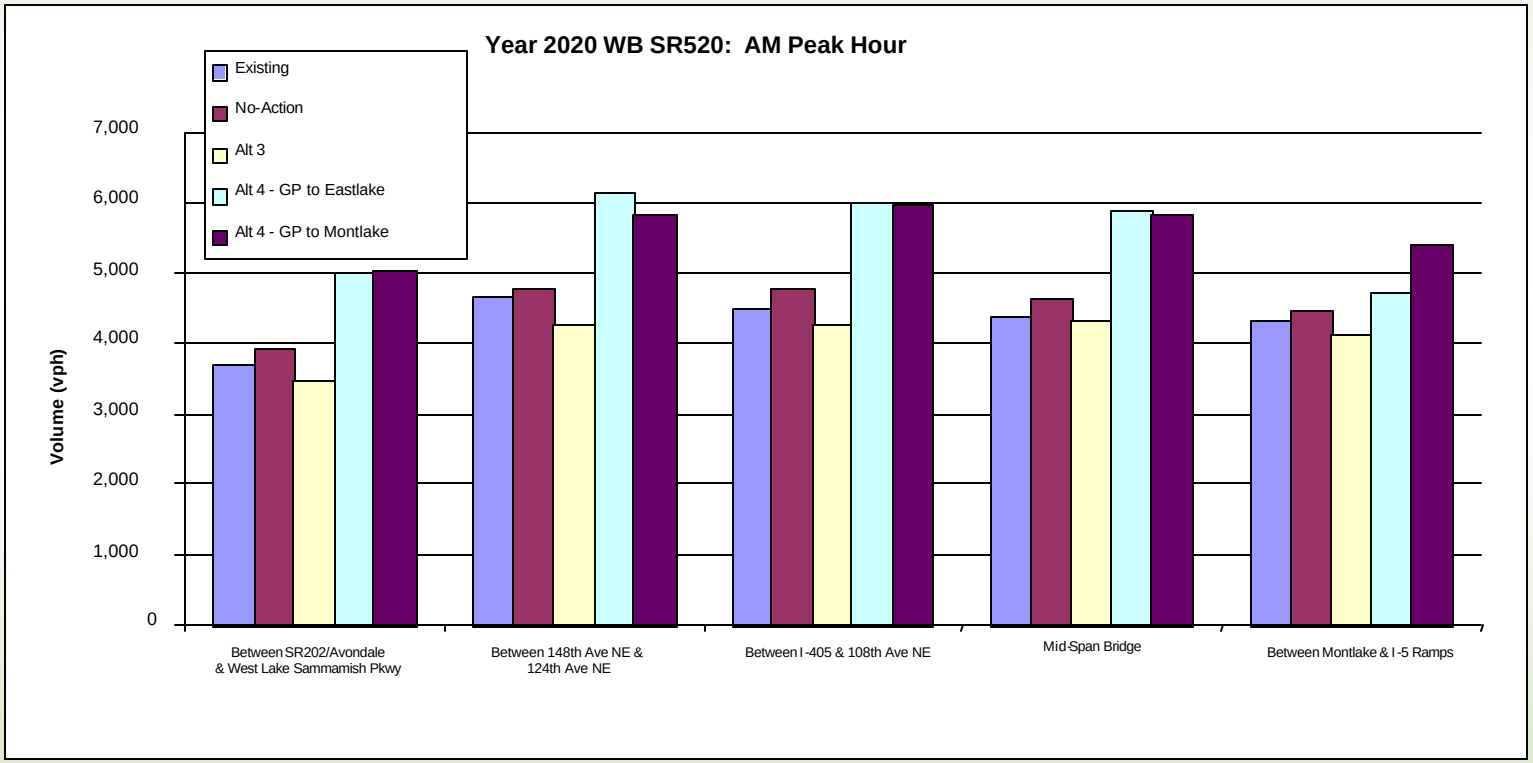
Relative Increases
(Over No-Action)

Alt. 2	**0%**
Alt. 3	**5%**
Alt. 4	**16%**
Alt. 5	**2%**
Alt. 6	**19%**
Alt. 7	**3%**
Alt. 8	**21%**

Trans-Lake Washington Project

Traffic Volumes

Peak Period SR 520 General Purpose Vehicle Volumes (AM)



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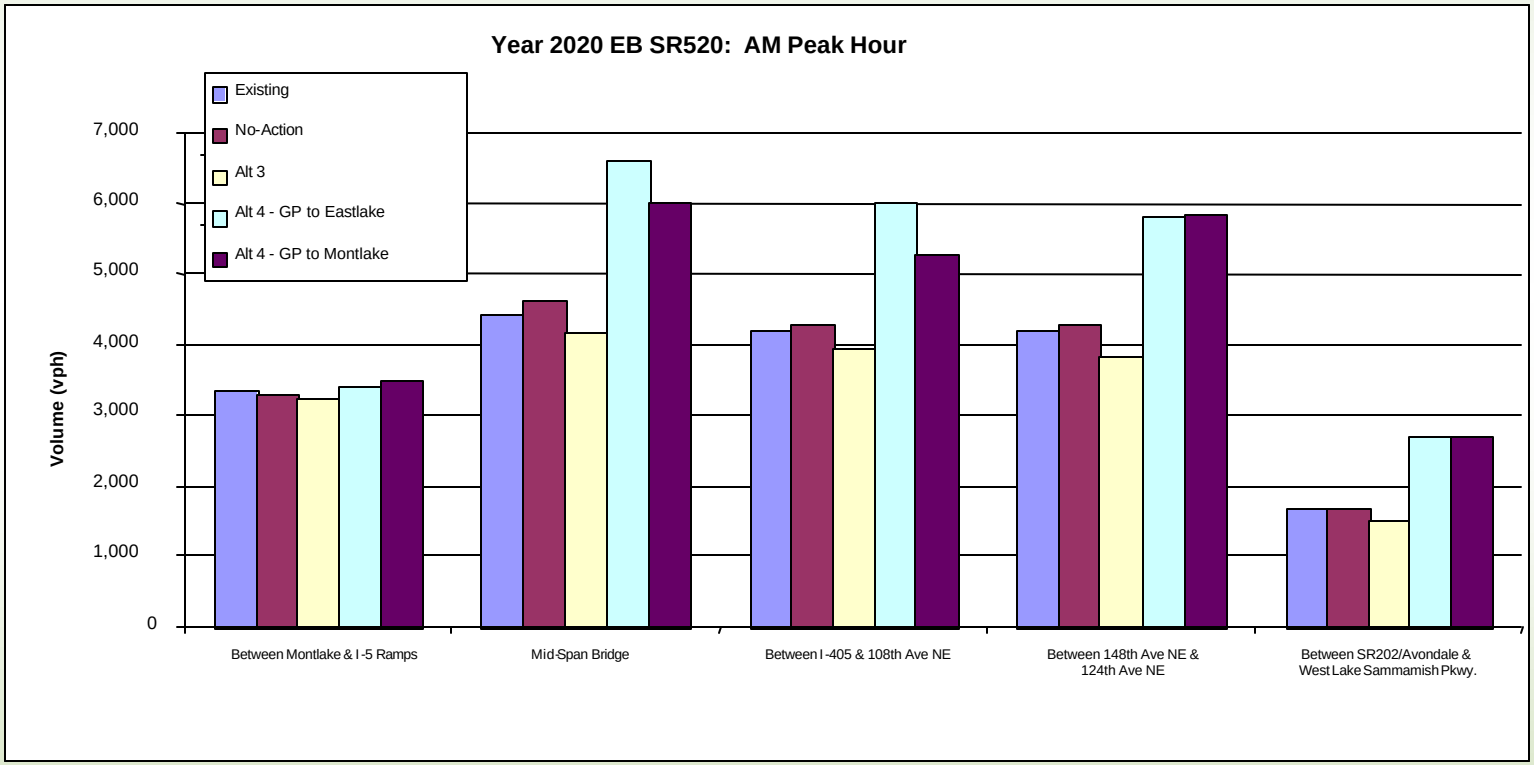
Traffic Volumes

Peak Period SR 520 General Purpose Vehicle Volumes (AM)



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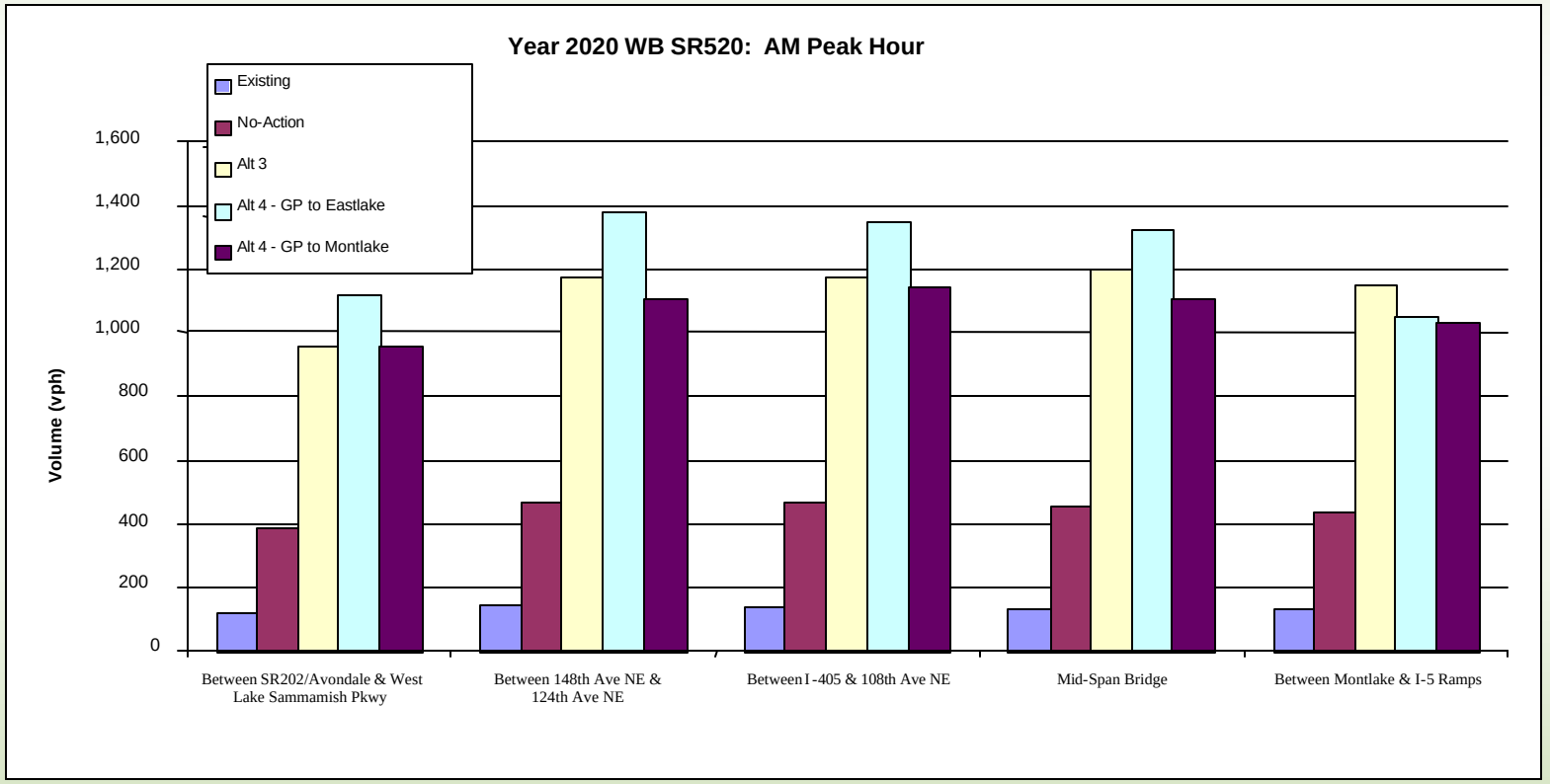
Traffic Volumes

Peak Period SR 520 HOV Vehicle Volumes (AM)



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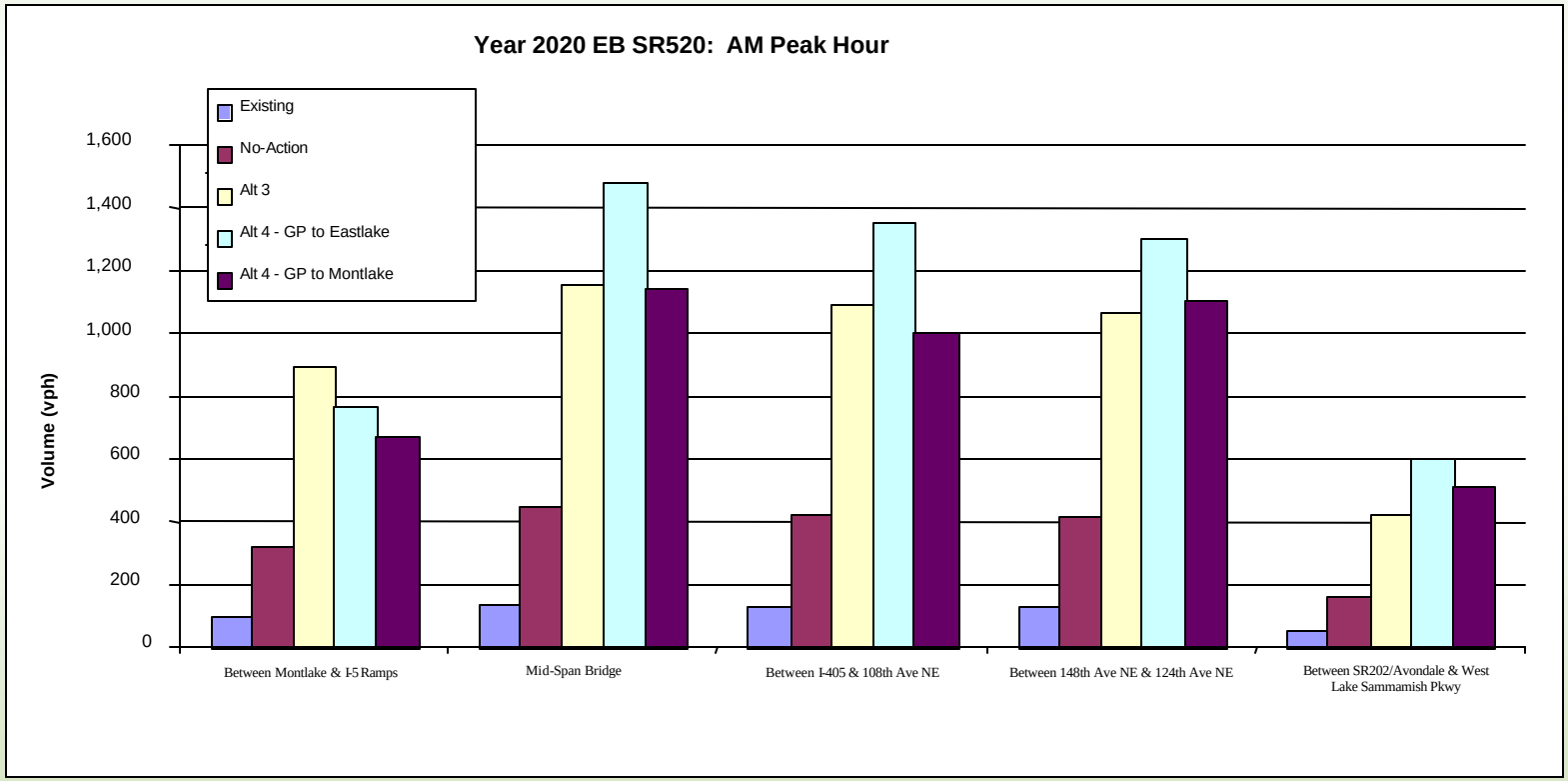
Traffic Volumes

Peak Period SR 520 HOV Vehicle Volumes (AM)



Traffic Volumes

Traffic Volume Criteria Ratings

1995	Alt 1: No Action	Alt 2: S & P w/ I-90 LRT	Alt 3: HOV w/ I-90 LRT	Alt 4: HOV & GP w/I-90 LRT	Alt 5: HOV & HCT	Alt 6: HOV & GP & HCT	Alt 7: HOV / BRT	Alt 8: HOV / BRT & GP
--	3	3	4	5	4	5	4	5

Rating Key

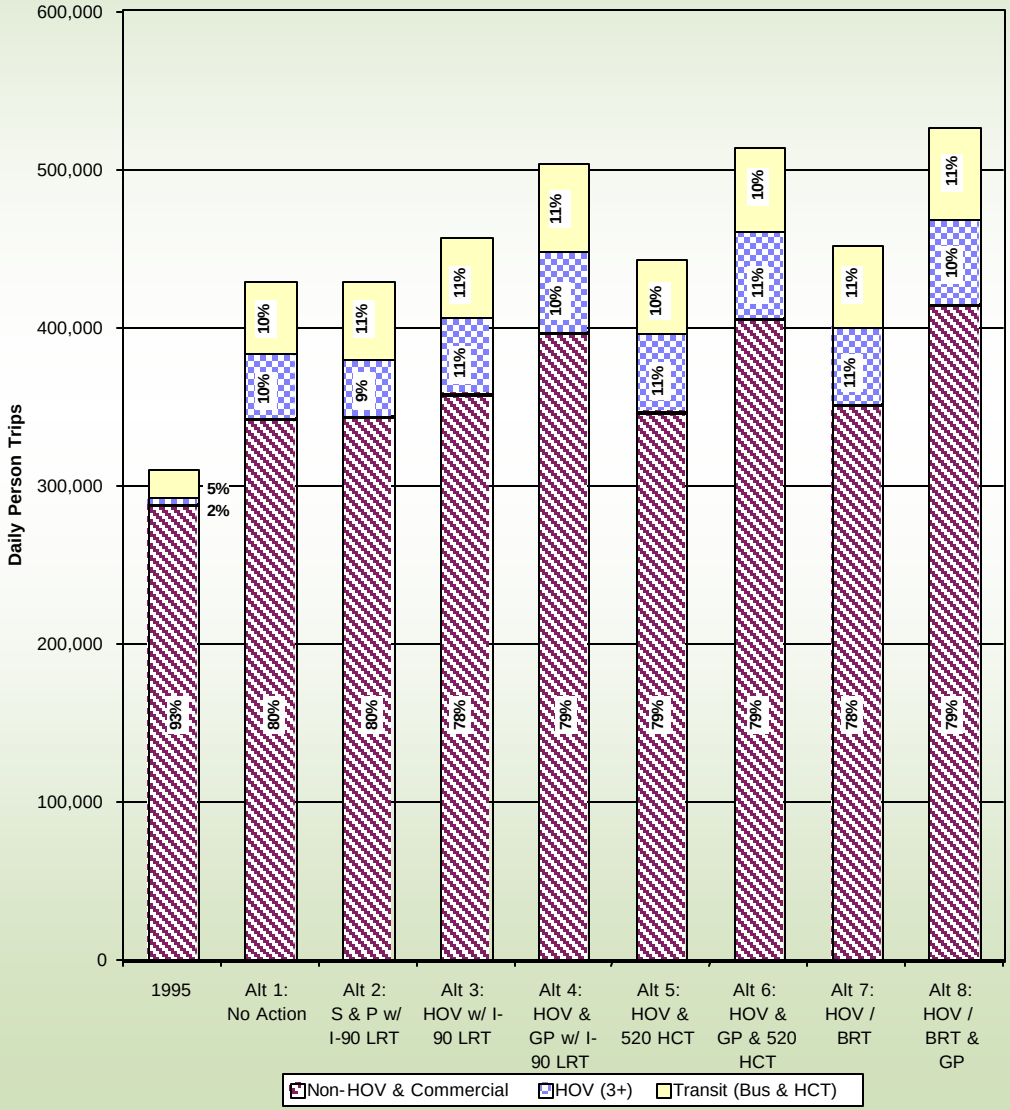
WORST				BEST
1	2	3	4	5
Least Effective, Most Impacts	Low Effectiveness, Medium Impacts	Medium Effectiveness, Low Impacts	Increased Effectiveness, No Impact	Most Effective, Improved Conditions

- **The obvious again:** More capacity carries more cars (Alts. 4, 6 and 8)
- From 1995 to 2020 Trans-Lake Trans-Lake vehicle trips grow 25% (No Action) to 50% (Alt 8). This is much lower than person trip growth - - transit and HOV play large roles in all alternatives
- Growth rates by corridor from 1995 to 2020:
  - SR 520 grows by 13% (No Action) to 75% (Alt 8)
  - I-90 growth is flatter (28% to 33%) across all alternatives, with most growth for No Action - - growth on I-90 slows when SR 520 expands
- Vehicle trip growth increases regardless of HCT

Trans-Lake Washington Project

Mode Share

Mode Share for Trans-Lake Person Trips - I-90 & SR 520 Corridors Combined



Key Findings

- Ridesharing/transit shares grow dramatically from today. (despite different alternatives.)
- Adding general purpose capacity does not adversely effect transit share.

Mode Share

Mode Share Ratings

1995	Alt 1: No Action	Alt 2: S & P w/ I-90 LRT	Alt 3: HOV w/ I-90 LRT	Alt 4: HOV & GP w/I-90 LRT	Alt 5: HOV & HCT	Alt 6: HOV & GP & HCT	Alt 7: HOV / BRT	Alt 8: HOV / BRT & GP
--	3	3	3	3	3	3	3	3

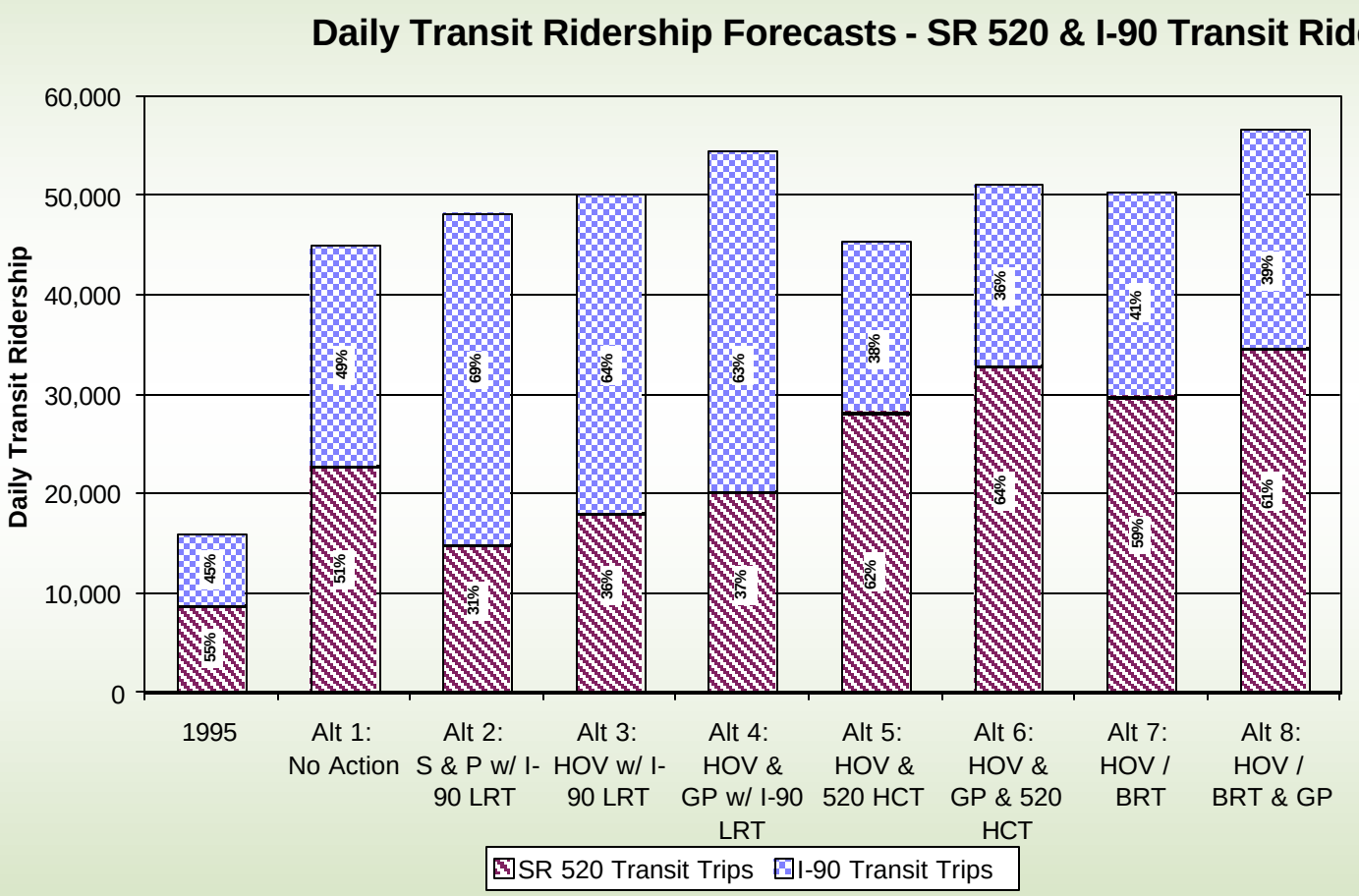
Rating Key

WORST				BEST
1	2	3	4	5
Least Effective, Most Impacts	Low Effectiveness, Medium Impacts	Medium Effectiveness, Low Impacts	Increased Effectiveness, No Impact	Most Effective, Improved Conditions

- All alternatives predict large increases in HOV and transit use compared to 1995
- GP/commercial trips were 93% of all person trips in 1995
  - By 2020 they will be 78% to 80% of all trips
- HOV use will move from 2% in 1995 to 10 to 11% in 2020
  - Transit use will move from 5% in 1995 to 10 to 11% in 2020
- Total trips change more than the mode shares for all alternatives
- No one alternative performed better when both corridors are combined, but there are shifts in mode share by corridor

Trans-Lake Washington Project

Transit Ridership



Relative Increases
(Over No-Action)

Alt. 2	**7%**
Alt. 3	**12%**
Alt. 4	**21%**
Alt. 5	**1%**
Alt. 6	**14%**
Alt. 7	**12%**
Alt. 8	**26%**

Trans-Lake Washington Project

Transit Ridership

Transit Ridership Ratings

1995	Alt 1: No Action	Alt 2: S & P w/ I-90 LRT	Alt 3: HOV w/ I-90 LRT	Alt 4: HOV & GP w/I-90 LRT	Alt 5: HOV & HCT	Alt 6: HOV & GP & HCT	Alt 7: HOV / BRT	Alt 8: HOV / BRT & GP
--	2	3	4	4	3	4	4	5

Rating Key

WORST				BEST
1	2	3	4	5
Least Effective, Most Impacts	Low Effectiveness, Medium Impacts	Medium Effectiveness, Low Impacts	Increased Effectiveness, No Impact	Most Effective, Improved Conditions

- High quality transit service needed in both corridors
- Cross lake HCT provides capacity for significant travel growth beyond 2020
- Selection of corridor depends on factors other than transportation effectiveness
- Impacts, community support, costs & operations will be determinate factors

HCT Cross Lake Ridership

- Little Difference Between SR 520 & I-90 HCT
- Little Difference Between Fixed Guideway & BRT
- Many Trips Shift Between SR 520 & I-90
- HCT Investment Causes Up To 24% Increase in Transit Use

Mobility

- Significant Travel Time Difference for Some Trip Pairs
- Significant Difference in Long-Term Capacity
- Significant Difference in Reliability

BRT Conclusions

- Highly Effective in SR 520 Corridor
- May Suffer Reliability Problems
- May Require Major New Investments in Seattle CBD and U-District
- Limited Growth Capacity

I-90 LRT Conclusions

- Works Best with Balance of LRT Network
- Avoids Cost of New Westside Transit Corridor
- Impacts Existing I-90 Center Roadway Users

SR 520 HCT Conclusions

- Provides New Westside Transit Corridor
- Better Cross-Lake U-District & Northern Eastside Service
- Avoids Impacts to I-90 Center Roadway

General Conclusions

- High Quality Transit Service Needed in Both Corridors
- Cross Lake HCT Provides Capacity For Significant Travel Growth Beyond 2020
- Selection of Corridor Depends on Factors Other Than Transportation Effectiveness
- Impacts, Community Support, Costs & Operations Will Be Determinate Factors

Trans-Lake Washington Project

HCT Boardings

Daily HCT Station Boardings

Station	Alt 1: No Action	Alt 2: S & P w/ I-90 LRT	Alt 3: HOV w/ I-90 LRT	Alt 4: HOV & GP w/I-90 LRT	Alt 5: HOV & HCT	Alt 6: HOV & GP & HCT	Alt 7: HOV & BRT	Alt 8: HOV & BRT & GP
Westside Station Areas								
HCT West Side Totals		**51,900**	**51,900**	**51,900**	**52,700**	**52,700**	**29,500**	**32,800**
Eastside Station Areas								
HCT East Side Totals		**26,300**	**26,300**	**26,300**	**25,900**	**28,600**	**23,800**	**25,600**
East and West Side Grand Totals		**78,200**	**78,200**	**78,200**	**78,600**	**81,300**	**53,300**	**58,400**

Source: PSRC Regional Forecasting Model

Trans-Lake Washington Project

VMT and VHT

(Vehicle Miles Traveled & Vehicle Hours Traveled)

Study Area and Regional Vehicle Miles Traveled/Vehicle Hours Traveled

VMT and VHT	ALTERNATIVES								
	1995	Alt 1 No Action	Alt 2: S & P w/ I-90 LRT	Alt 3: HOV w/ I-90 LRT	Alt 4: HOV & GP w/I-90 LRT	Alt 5: HOV & 520 HCT	Alt 6: HOV & GP & 520 HCT	Alt 7: HOV / BRT	Alt 8: HOV / BRT & GP
Study Area									
VMT									
% change*		32.8%	2.7%	0.0%	2.7%	0.2%	2.5%	0.4%	2.7%
VHT									
% change*		90.8%	2.2%	-1.1%	2.2%	-0.5%	1.7%	0.7%	1.5%

* The No Action % change is compared to 1995. The alternatives % change is compared to No Action.

Trans-Lake Washington Project

VMT and VHT

(Vehicle Miles Traveled & Vehicle Hours Traveled)

Vehicle Miles Traveled Rating

1995	Alt 1: No Action	Alt 2: S & P w/ I-90 LRT	Alt 3: HOV w/ I-90 LRT	Alt 4: HOV & GP w/I-90 LRT	Alt 5: HOV & HCT	Alt 6: HOV & GP & HCT	Alt 7: HOV & BRT	Alt 8: HOV & BRT & GP
--	3	3	4	3	4	3	4	3

Rating Key

WORST				BEST
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